

Paper Id: **110111**Roll No:

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B. TECH.
(SEM-I) THEORY EXAMINATION 2019-20
PROGRAMMING FOR PROBLEM SOLVING

Time: 3 Hours

Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

| Qno. | Question | Marks | CO |
|------|---|-------|-----|
| a. | Name different storage class with one example of each. | 2 | CO1 |
| b. | Describe the functionalities of operating system. | 2 | CO1 |
| c. | Differentiate between implicit & Explicit type conversion. | 2 | CO2 |
| d. | What do you understand by mixed operands? Explain with example. | 2 | CO2 |
| e. | What is the meaning of prototype of a function? | 2 | CO3 |
| f. | Differentiate between while and do-while loop. | 2 | CO3 |
| g. | Write an algorithm to find second largest element in an array. | 2 | CO4 |
| h. | Differentiate structure with union. | 2 | CO4 |
| i. | Explain the role of C preprocessor. | 2 | CO5 |
| j. | What do you mean by pointer arithmetic? | 2 | CO5 |

SECTION B

2. Attempt any three of the following: 3 x 10 = 30

| Qno. | Question | Marks | CO |
|------|---|-------|-----|
| a. | Discuss the major components of a digital computer with suitable block diagram. Also discuss the function of each component. | 10 | CO1 |
| b. | What are operators? Mention different types of operators in C. Explain the difference between operator precedence and associativity with suitable example. | 10 | CO2 |
| c. | Take the three digit number from the user then write a program to check entered number is palindrome or not. | 10 | CO3 |
| d. | Write a program that prints the real roots of a quadratic equation. Also draw flowchart for the same. | 10 | CO4 |
| e. | Write macro definition with arguments for calculation of simple interest and amount. Store these macro definitions in a file called 'interest.h'. Include this file in your program and use the macro definitions for calculating simple interest and amount. | 10 | CO5 |

SECTION C

3. Attempt any one part of the following: 1 x 10 = 10

| Qno. | Question | Marks | CO |
|------|---|-------|-----|
| a. | Differentiate between: (i) Compiler and Interpreter (ii) Linker and Loader (iii) break and continue | 10 | CO1 |
| b. | (i) Define data types in C. Discuss primitive data types in terms of memory size, format specifier and range. (ii) Explain structure of a C program. | 10 | CO1 |

